

FIG. 1

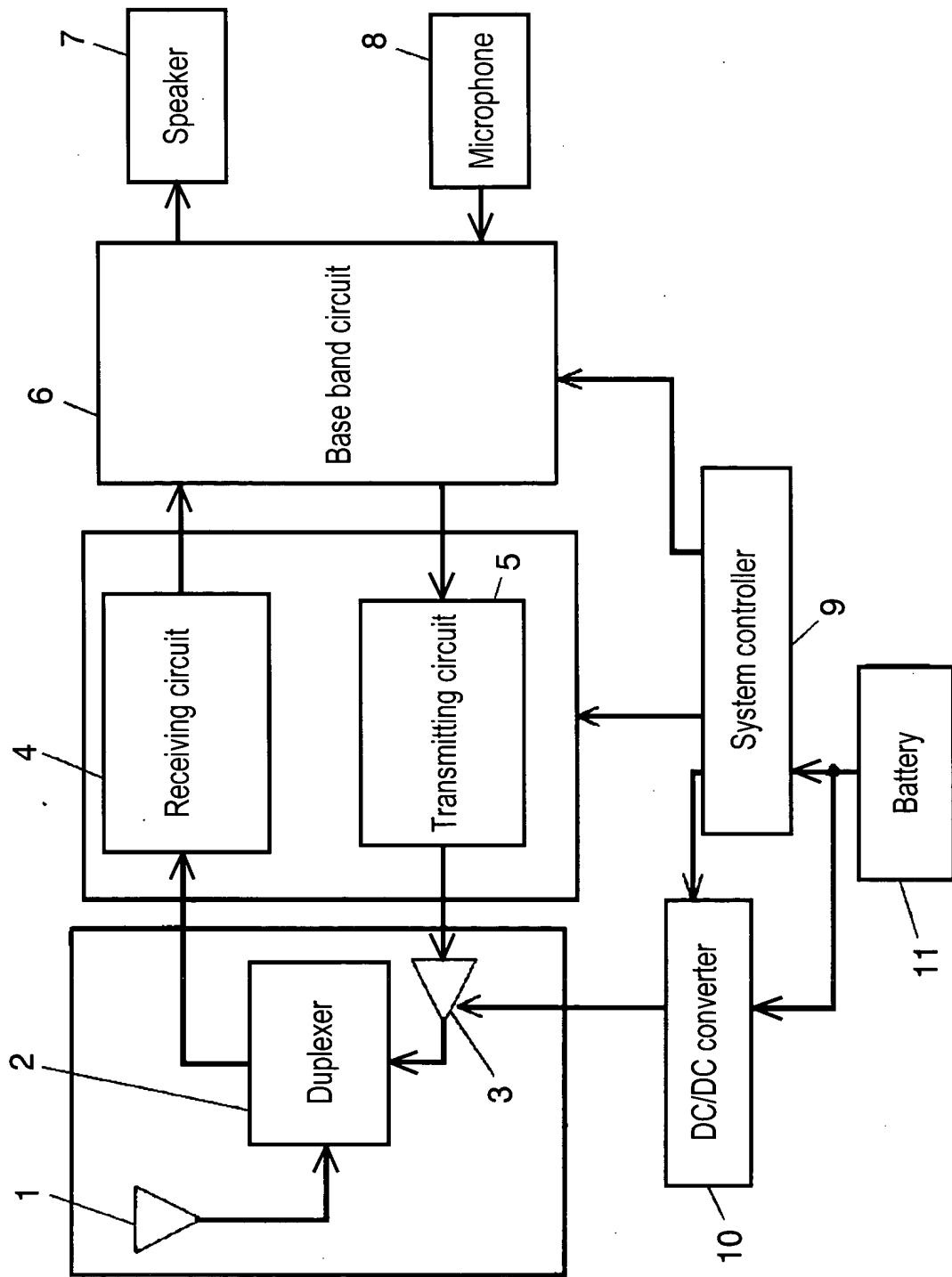


FIG. 2

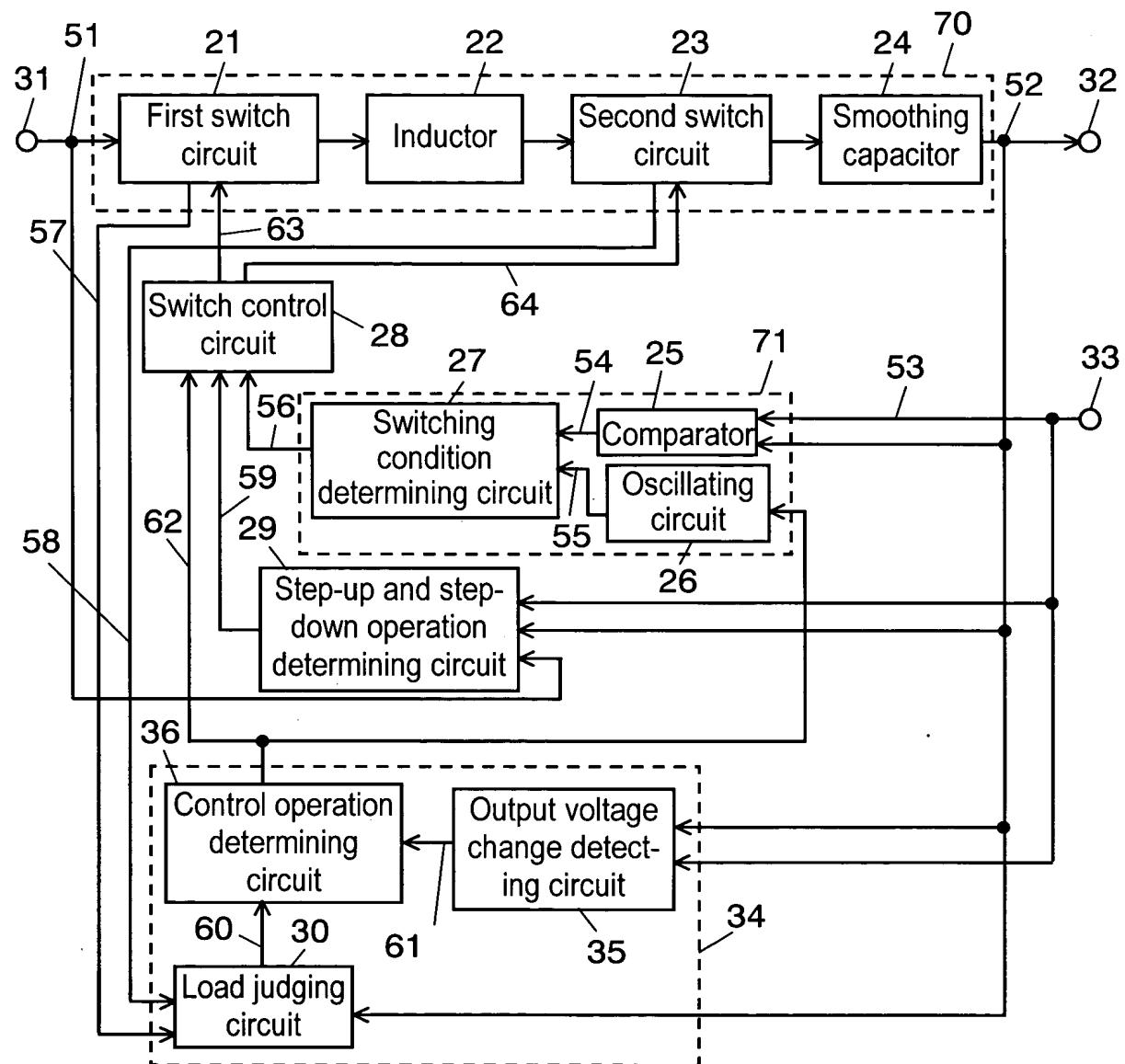


FIG. 3A

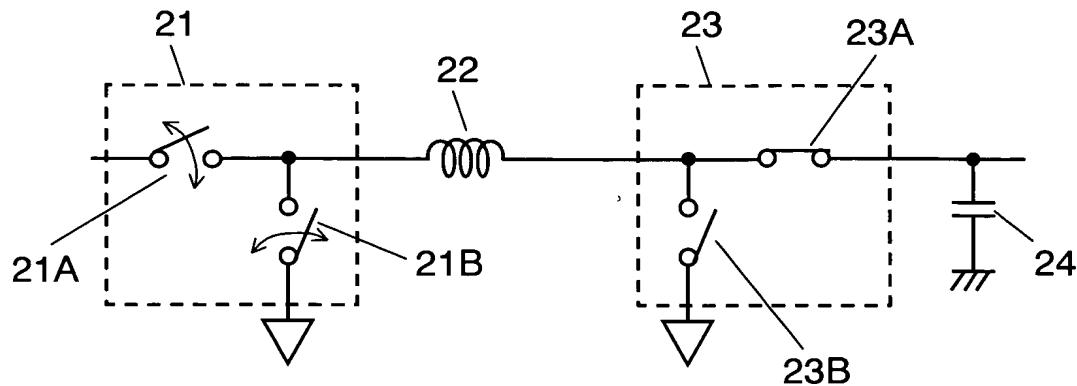


FIG. 3B

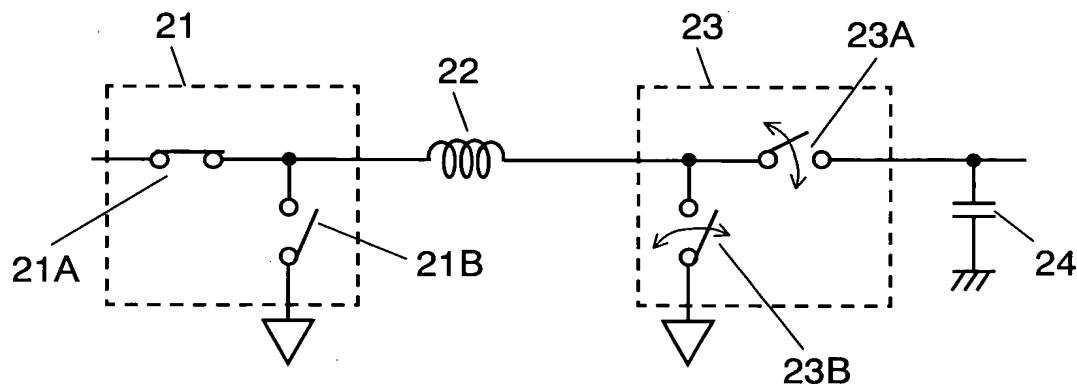


FIG. 4A

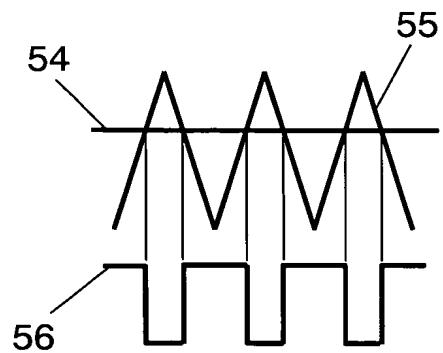


FIG. 4B

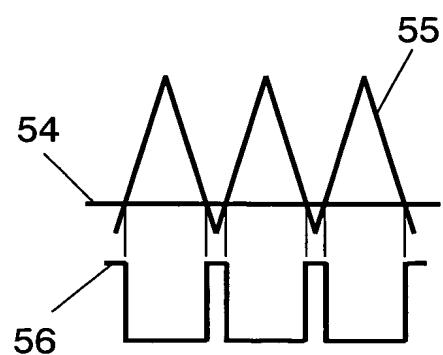


FIG. 5A

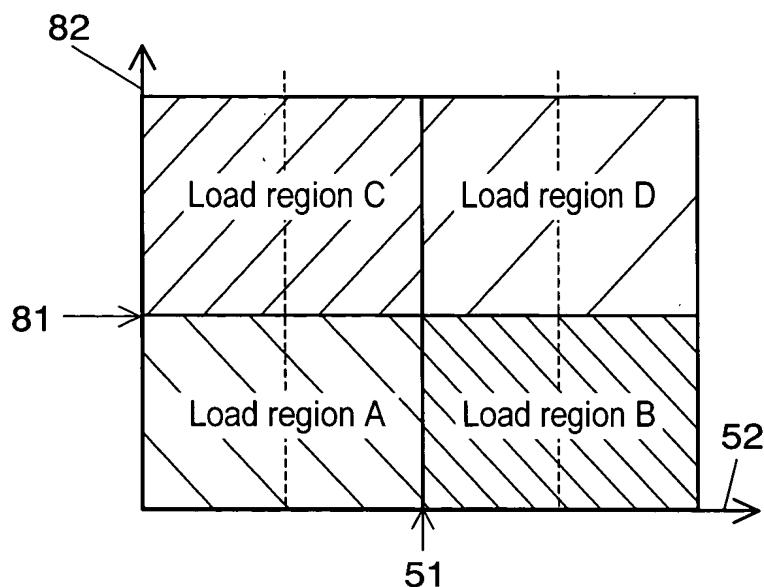


FIG. 5B

	First control operation determination signal	Second control operation determination signal
Load region A	Step-down operation	PFM operation
Load region B	Step-up operation	
Load region C	Step-down operation	PWM operation
Load region D	Step-up operation	

FIG. 6

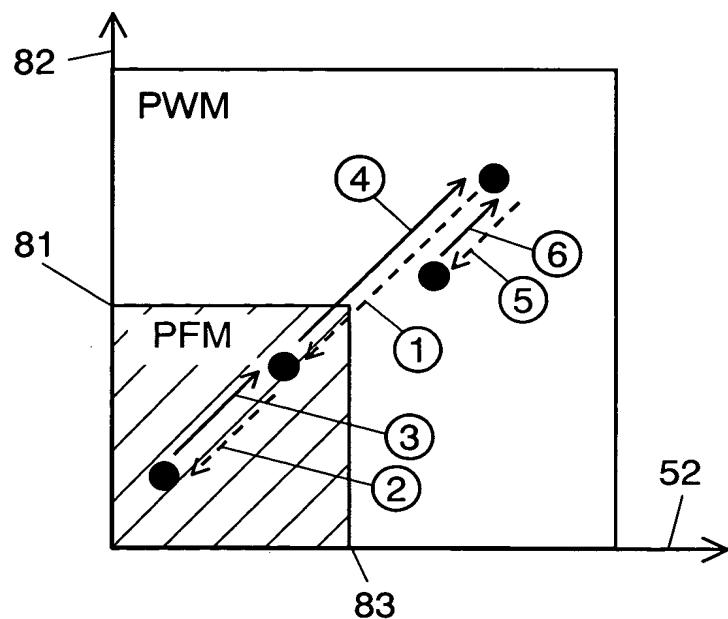


FIG. 7

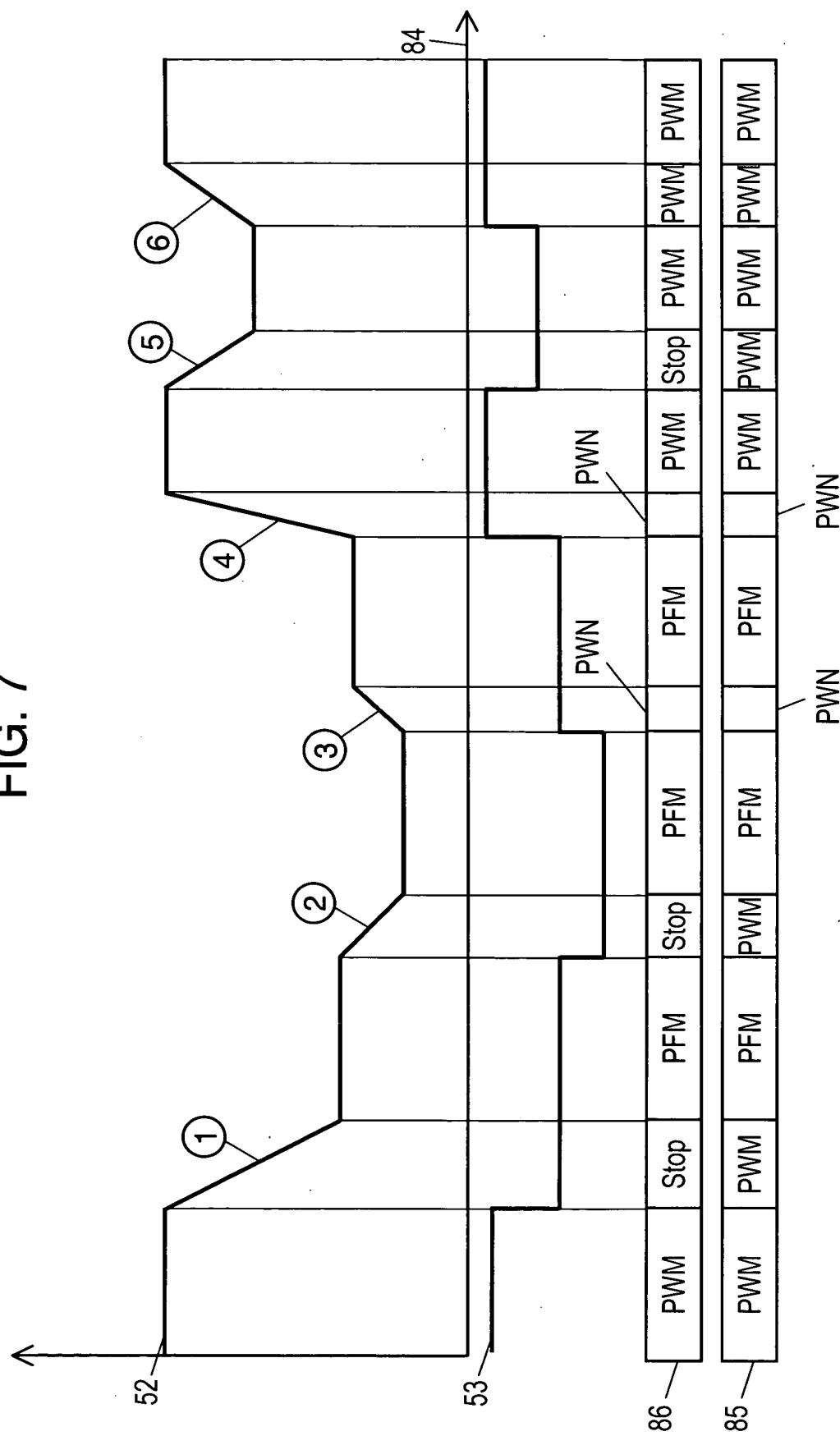


FIG. 8

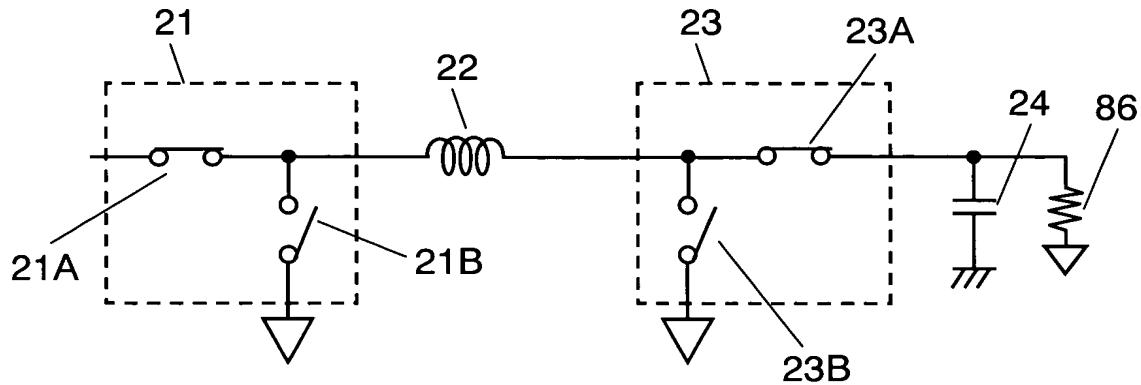
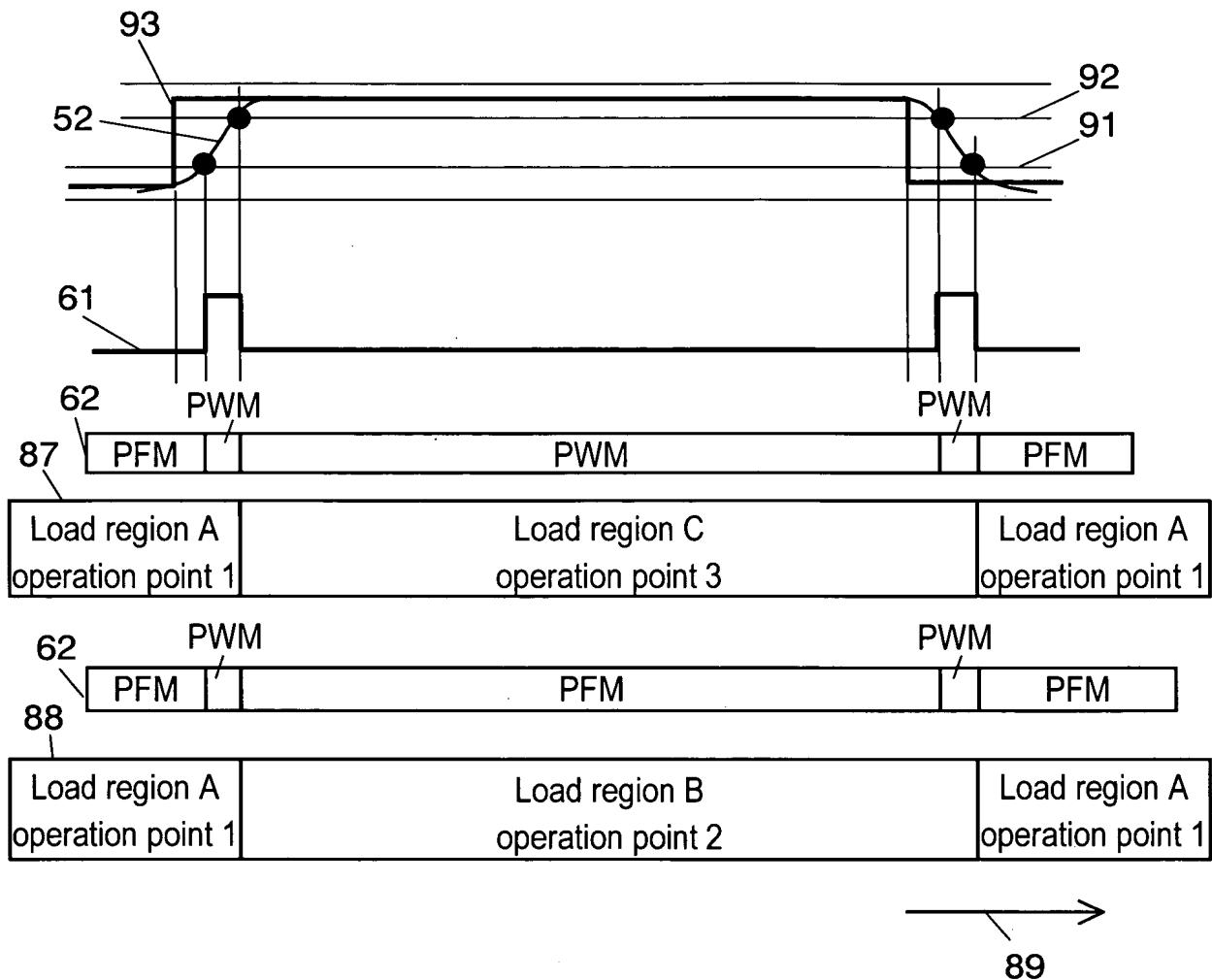


FIG. 9



Control operation determination signal 2

	No output voltage change	With output voltage change
Light load (load region A, B)	PFM	PWM
Heavy load (load region C, D)	PWM	PWM

FIG. 10

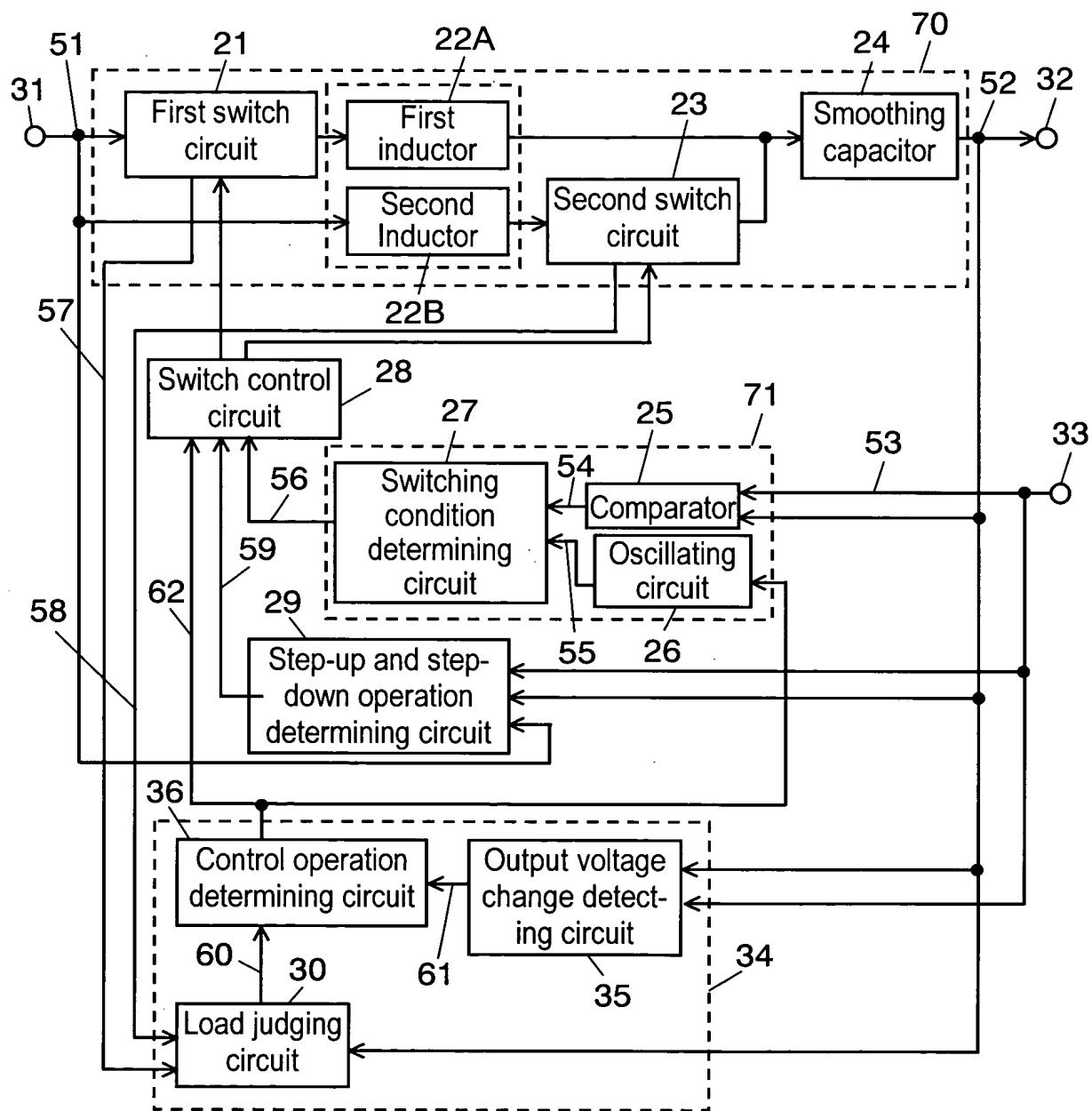


FIG. 11 PRIOR ART

